

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE
SUBCOMMITTEE ON SPACE AND AERONAUTICS**

HEARING CHARTER

The Future of Air Traffic Control: The R&D Agenda

**Wednesday, March 29, 2006
2:00 pm to 4:00 pm
2318 Rayburn House Office Building**

Purpose

On Wednesday, March 29, at 2:00 pm, the House Science Committee's Subcommittee on Space and Aeronautics will hold a hearing to examine how research and development (R&D) are progressing on the creation of a new air traffic control system that would be able to handle three times as much air traffic as the current system can.

To oversee that R&D, Congress in 2003, created the Joint Planning and Development Office (JPDO) within the Federal Aviation Administration (FAA). JPDO was created to guide the activities of seven Federal agencies, particularly the FAA and the National Aeronautics and Space Administration (NASA), as they design and implement a Next Generation Air Transportation System (NGATS, pronounced "en-gatz").

While the JPDO has succeeded in bringing the seven participating agencies together to discuss air traffic needs, the Office has not yet issued clear R&D objectives. Outside entities, including the Government Accountability Office (GAO), the Department of Transportation's Inspector General, and the National Academy of Sciences have raised concerns about whether the JPDO as organized and funded can, over the long term, clearly establish and enforce R&D priorities backed by sufficient budgets; integrate environmental, capacity and security concerns into the research plan; and institutionalize collaboration among agencies. (The outside reports are described in greater detail at the end of this charter.)

Witnesses

The Honorable Jeffrey N. Shane is the Under Secretary of the U.S. Department of Transportation (DOT). His duties include overseeing the JPDO.

Dr. Lisa Porter is the Associate Administrator for Aeronautics Research Mission Directorate at the NASA.

Mr. Bob Pearce is the Acting Director of JPDO.

Mr. David Dobbs is the Assistant Inspector General for Aviation and Special Projects, U.S. Department of Transportation.

Mr. Mike Hudson was chair of the National Academy of Sciences' Committee on Technology Pathways: Assessing the Integrated Plan for a Next Generation Air Transportation System, which issued a report in 2005. He recently retired as Vice Chairman of Rolls Royce North America, a manufacturer of aircraft turbine propulsion systems.

Dr. Gerald Dillingham is Director of Civil Aviation Issues at the Government Accountability Office. At the request of the Science Committee and the Transportation and Infrastructure Committee, GAO is working on a study of JPDO's structure, challenges, and international collaboration.

Overarching Questions

1. Is the JPDO effectively organized and adequately funded to plan and implement the Next Generation Air Transportation System?
2. What are the biggest near-term and mid-term technical and programmatic challenges facing the JPDO as it attempts to design and develop the NGATS? What steps can be taken to address these challenges?
3. What role should private industry (large systems integrators – for example, Boeing and Lockheed Martin – and civil air carriers) play in the design and construction of the NGATS?

Overview

Today's aviation system cannot meet the needs of the 21st century. That was the conclusion of numerous studies and blue ribbon panels, including most recently, the National Academy of Sciences and the Commission on the Future of the United States Aerospace Industry. In response to this need, the NGATS will be designed to triple the capacity of the current air traffic control system, maintain aviation's record as the safest mode of transportation, improve the level of security, and minimize the impact of weather disruptions.

To oversee the development of the NGATS, Congress in 2003 created the JPDO as part of the "Vision 100 – Century of Aviation Reauthorization Act" (P.L.108-176). The Act directed that JPDO be established within the FAA, and that it be led by an FAA-appointed Director¹ and a NASA-appointed Deputy Director. (The full text of the sections establishing the JPDO appear in the appendix.)

The seven federal agencies participating in the JPDO are: the Department of Transportation; the Department of Commerce – National Oceanic and Atmospheric Administration; NASA; the Department of Homeland Security; the Department of

¹ Since its creation a little over two years ago, the JPDO has had two Directors. As of late January 2006, they are searching for a third. Mr. Bob Pearce, the NASA-appointed Deputy Director, is Acting Director.

Defense; the Federal Aviation Administration; and the White House Office of Science and Technology Policy.

The JPDO is overseen by a Senior Policy Committee chaired by the Secretary of Transportation that includes senior representatives from each of the participating departments and agencies.

Issues

- Is the JPDO giving adequate direction to its participating agencies? Are the participating agencies willing to follow the directives of the JPDO? Will the agencies have sufficient funding to devote to the NGATS? Some of the participating agencies have expressed concern that the JPDO has not yet provided any specific R&D agenda. While the JPDO has published a “research roadmap” as required by law, that document is quite general. The JPDO plans this summer to issue an “enterprise architecture” that would provide greater detail on how the NGATS would perform, which would help agencies set their R&D agendas. At this point, therefore, it may be too early to tell how cooperative the agencies will turn out to be and whether the NGATS will proceed as a truly coordinated, coherent interagency activity. In the Science Committee version of the legislation creating the JPDO, the JPDO had its own research budget from which it could “pay” agencies to carry out specific tasks. In the final version of the Act, however, the JPDO can only request that other agencies devote their own budgets to the JPDO’s suggested assignments; the JPDO’s own budget just covers its coordination role.
- How much is the U.S. going to spend on research and development? How much will NGATS cost? No cost estimate has yet been developed and probably won’t be until the architecture is established and refined, though it can be reasonably assumed that designing, researching and implementing NGATS will run into the billions of dollars. NASA has already budgeted \$530 million over the next five years for research conducted by its Airspace Systems program in support of NGATS. Other agency research budgets are not known.
- What decisions does the Senior Policy Committee have to make, and when do they have to make them, before work on the NGATS can begin in earnest? The design of the NGATS raises policy questions as well as technical ones. Some of these policy questions need to be addressed by the Senior Policy Committee before a full research agenda can be developed. For example, the Policy Committee needs to decide if airplanes will be allowed to continue to fly under visual flight rules (VFR) once the NGATS is in place. VFR, which means that a pilot does not file a flight plan and just navigates using his sight rather than being guided by air traffic control, is used by small, private planes hopping from one small community airport to another. If VFR is allowed to continue, then the NGATS hardware and software will have to be much more complex because it will have to take into account smaller planes that will lack the same kinds of equipment that airlines will be using.

- Who bears the ultimate responsibility for the development of the NGATS? The JPDO will develop the plans for the NGATS, but it cannot require any agency to carry out its plans. The FAA will operate the NGATS, but it needs other agencies, particularly NASA, to perform the R&D to develop it. The JPDO has a director, but it is overseen by the multi-agency Senior Policy Council. This complex structure is designed to ensure that all concerned agencies are “at the table” as the NGATS is developed, but who is ultimately in charge?
- Will the development of the NGATS proceed as a true interagency effort, or will it just reflect the individual efforts of the participating agencies? A key to answering that question may be to examine the budget process for the JPDO. Are the participating agencies going to develop a single, coherent unified budget for activities needed by the JPDO and then have that budget reviewed as a single proposal by the Office of Management and Budget? Or will activities guided by the JPDO just be budgeted and reviewed as an element of the activities of the participating agencies?
- What role should private industry play? The FAA typically develops detailed specifications for an air traffic control system and then invites companies to bid to build the system to FAA specs. Another option, pushed by some companies, would be for the FAA to lay out the performance requirements for a system (for example, the amount of air traffic it should be able to handle) and then allow private companies to figure out the specifics of the design. Is one method more cost-effective than the other in meeting public needs?
- What is being done to ensure the design of NGATS is compatible with our international partners? Large U.S. and international air carriers want to ensure that NGATS is compatible with other air navigation systems fielded around the world – especially in Europe – to avoid the huge expense of equipping their fleets with two sets of communications, navigation, and surveillance systems. The European Commission is working on its own version of a future air traffic control system that should come on line about the same time as the NGATS. Ideally, the European Commission and the JPDO will work to “harmonize” concepts of operations and equipment requirements jointly, or through the international aviation operating standards organization known as the International Civil Aviation Organization.
- To what extent should human factors research be a part of NGATS? An important part of designing and implementing any air traffic control system is to understand how the individuals who will be using it will deal with the technology. Therefore, human factors research, which examines the interaction between people and technology, can be an important aspect of system design. It is not clear whether human factors research (as opposed to technology R&D) is getting adequate attention in developing an R&D agenda for the NGATS. NASA has talked about reducing funding for human factors research.

Background

The Current Air Traffic Control System

Today's air traffic control (ATC) system is modeled on the concept first put into service 50 years ago: air traffic controllers, sitting in front of radar screens, guide aircraft² through the airspace. The process is labor intensive. From the moment an aircraft begins taxiing to the runway, through takeoff, cruise, descent, landing, and taxiing to the destination terminal, pilots must receive explicit voice approval from air traffic controllers. While the introduction of computers, more powerful radars, and other modern technologies have helped controllers do their jobs with greater reliability and safety, they still must give pilots voice instructions to keep aircraft moving through the system. (Even large modern passenger aircraft do not carry radars capable of finding other, nearby planes, though, if properly equipped, some do use other technical means to permit them to "see" each other).

This year's FAA Aerospace Forecasts (for FY 2006 through FY 2017) estimates that in 2005, U.S. scheduled air carriers (mainline and regionals) boarded 738.6 million passengers on domestic and international flights. By 2017, the number of passengers is forecast to be 1.07 billion, an increase of 45%. The number of aircraft handled by the FAA's Air Route Traffic Control Centers are forecast to total 47.2 million during 2006 and will grow to 67.7 million by 2017, a 43 percent increase.

Experts argue that today's system – with its reliance on ground radars, voice communications, and air traffic controllers directing each phase of flight – will not be able to accommodate enough new capacity to meet future demand. Absent a fundamental change in the operation of our ATC system, congestion will become more pervasive and, as a consequence, economic growth will become constrained.

The Next Generation Air Transportation System Concept

While no firm description of a future air traffic management system has been agreed to, it is widely accepted that NGATS will: 1) be less dependent on ground-based radars, instead relying on equipping future aircraft with electronic systems that will self-report their location (using Global Positioning technologies) to nearby aircraft and to the ground; 2) rely on systems on-board the aircraft to establish separation distances, with each plane's electronic systems "talking" to nearby aircraft, and through the use of sophisticated software, allowing aircraft to automatically determine priority of passage and separation maneuvers; 3) change the function of air traffic controllers from today's hands-on, positive-control role to a more passive one, intervening when necessary to de-conflict traffic; 4) allow more aircraft to operate in any given segment of airspace; and 5) be much more capable of forecasting weather events hours in advance, and mitigating weather impacts by increasing the flow of aircraft around them.

² All scheduled passenger and cargo flights, plus high-performance aircraft flying at higher altitudes, are required to use ATC services. Small general aviation aircraft can fly to and from uncrowded airports under "visual flight rules" that do not require talking to, or relying on, controllers.

The Joint Planning and Development Office

The JPDO has a relatively small staff and limited resources. FAA and NASA share the cost of providing operational funding for JPDO. For FY06, FAA is providing \$20 million and NASA is providing \$18 million; a level that will remain fairly flat through FY11. These figures include funding for civil service and contractor employees, general and administrative expenses, support for the Integrated Product Teams (described below), and engineering studies. JPDO has a staff of approximately 100 civil servant and contractor employees (full-time equivalents).

With the exception of NASA, the proposed R&D budgets for FY07 devoted to JPDO-directed activities by participating departments and agencies have not yet been fully formulated. The budget request for NASA's Aeronautics Research Mission Directorate's (ARMD) air traffic control R&D is \$120 million for FY07, gradually diminishing to \$89.4 million in FY11, totaling \$530 million over five years. NASA asserts, however, that many other activities in its overall aeronautics research portfolio (e.g., quieter engines; more efficient wing designs; robust flight management systems) also contribute toward the NGATS. Most of this work is performed at NASA's Ames Research Center, CA, and the Langley Research Center, VA.

On December 4, 2004, the JPDO delivered the "Next Generation Air Transportation System Integrated Plan" to Congress. (A complete copy of the plan, about 36 pages in length, can be found at www.jpdo.aero/site_content/NGATS_v1_1204.pdf.) It establishes high-level objectives, operational concepts, and a list of eight specific implementation strategies as key attributes of the future system. To address each strategy, an "Integrated Product Team" was formed, comprised of representatives from relevant departments and agencies, with a designated agency lead. The eight teams (with the lead agency appearing in parentheses) are:

1. Develop airport infrastructure to meet future demand. (FAA)
2. Establish an effective security system without limiting mobility or civil liberties. (DHS)
3. Establish an agile air traffic system. (NASA)
4. Establish user-specific situational awareness. (DOD)
5. Establish a comprehensive proactive safety management approach. (FAA)
6. Develop environmental protection that allows sustained aviation growth. (FAA)
7. Develop a system-wide capability to reduce weather impacts. (DOC/NOAA)
8. Harmonize equipage and operations globally. (FAA)

Vision 100 also directed the JPDO to provide Congress annual progress reports, to be submitted at the same time as the President's budget request. The first report was submitted in early March of this year. A copy can be found at:

www.jpdo.aero/site_content/pdf/ngats-np_progress-report-2005.pdf

The JPDO also created an affiliated organization, the NGATS Institute, whose members represent other (non-federal) public and private entities having a vested interest in our nation's air transportation system. They include the Air Transport Association; Air Line Pilots Association; Aerospace Industries Association; Airports Council International;

National Business Aircraft Association; Air Traffic Control Association; plus eight others. Institute Members sit on the Integrated Product Teams, as well as provide high-level policy advice to the JPDO Director.

Outside Reports

Government Accountability Office (GAO)

The GAO is in the process of reviewing the work of the JPDO at the request of the Science Committee and the Transportation and Infrastructure Committee. So far, GAO is concerned that the JPDO may not be able to maintain the necessary inter-agency collaboration when it needs to begin asking participating agencies for significant spending increases. GAO points out that there is no formalized long-term agreement among the participating agencies that clearly defines their roles and responsibilities. GAO also has found that the JPDO still must convince the private sector that the government is financially committed to the NGATS, given FAA's record of starting and stopping programs.

Department of Transportation Office of Inspector General (IG)

The Inspector General is also reviewing the work of the JPDO and expects to put out a report this summer. Among the recommendations that the IG has for the JPDO are that the JPDO needs a strong leader (the position is vacant, with an acting director currently leading the organization); the JPDO needs to develop and implement mechanisms to ensure that the participating agencies will carry out assigned tasks and budget adequate funds for them; the JPDO needs to develop a strategy for technology transfer into the FAA, an area in which the FAA has a mixed record of success; the JPDO R&D agenda needs to include human factors research.

National Academy of Sciences (NAS)

The NAS report that was released last year urges the JPDO to focus first and foremost on increasing the capacity of the air traffic control system, while also satisfying requirements for safety, security, environmental effects, consumer satisfaction, and industrial competition. Second, they urge the JPDO to form three Integrated Product Teams (instead of eight) focused on (1) airport operations; (2) terminal area operations; and (3) en route and oceanic operations, and to provide them, and the JPDO, with strong leadership and more full-time staff. Third, they recommend that a viable source of funding and a governance model for the NGATS be identified. Finally, the committee urges JPDO to undertake a more vigorous effort to collaborate with foreign governments and institutions to jointly fund collaborative research and to define common operational concepts.

Questions for the Witnesses

The witnesses were asked to address the following questions in their testimony:

Questions for Under Secretary Jeffrey N. Shane:

- Who is ultimately responsible for the designing and development of the Next Generation Air Transportation System (NGATS)? Given the roles of the Joint Planning and Development Office (JPDO), the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, what is being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- To what extent can the JPDO move ahead with its responsibilities before the Senior Policy Council makes fundamental policy decisions – for example, how the new system will be financed, the role of pilots versus the ground in controlling aircraft, the jurisdictional line between state and federal responsibilities, and requirements for equipage? What, in your view, are the five most important unresolved policy issues that must be addressed by the Council? By what date would they have to be addressed to avoid implementation delays, and by what process will they be decided?
- How is the FAA's budget for JPDO-related research developed? Do the JPDO and its participating agencies sit down together and come up with a single unified budget that is then reviewed by OMB? Or do the agencies develop their own budgets, which are then reviewed by OMB separately?
- Should the JPDO be moved out of the Federal Aviation Administration's Air Traffic Organization to be given greater visibility and authority?
- What role will private industry play in the research, development, and implementation of the NGATS? Should the government, at some point, turn over development of the NGATS to a large systems integrator, and if yes, at what stage might that occur?

Questions for Mr. Bob Pearce, Acting Director, JPDO

- Who is ultimately responsible for the designing and development of the Next Generation Air Transportation System (NGATS)? Given the roles of the Joint Planning and Development Office (JPDO), the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, what is being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- When will the JPDO begin providing requirements and milestones to agencies for NGATS-related research and development programs? When will JPDO be able to provide a cost estimate to design, research, and build the NGATS?
- What is the process for JPDO to coordinate activities between each of the participating agencies and set research priorities? Are there sufficient resources to carry out all proposed projects?

- What steps is the JPDO taking to consult with those who will build, operate, and fly in the NGATS? To what degree will the industry's views be considered during formulation of the final design, operating, and equipage requirements?
- What do you see as the biggest near-term and mid-term technical and programmatic challenges facing the JPDO as it attempts to implement the NGATS? What steps can be taken to address those challenges?

Questions for Dr. Lisa Porter, NASA Associate Administrator for Aeronautics

- Who is ultimately responsible for the designing and development of the Next Generation Air Transportation System (NGATS)? Given the roles of the Joint Planning and Development Office (JPDO), the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, what is being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- What guidance has NASA received from the Joint Planning and Development Office with respect to the types of research to be conducted by the Aeronautics Research Mission Directorate? Has NASA been able to develop a multi-year research and development plan to support NGATS-related research? Will NASA have sufficient resources to fully execute the research in a timely fashion?
- How is NASA's budget for JPDO-related research developed? Do the JPDO and its participating agencies sit down together and come up with a single unified budget that is then reviewed by OMB? Or do the agencies develop their own budgets, which are then reviewed by OMB separately?
- What do you see as the biggest near-term and mid-term technical and programmatic challenges facing the JPDO as it attempts to implement the Next Generation Air Transportation System? What steps need be taken to address those challenges?

Questions for Dr. Gerald Dillingham, General Accountability Office

- Who should be ultimately responsible for the designing and development of the Next Generation Air Transportation System? Given the roles of the Joint Planning and Development Office, the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, is enough being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- What do you see as the biggest programmatic challenges facing the Joint Planning and Development Office as it attempts to implement the Next Generation Air Transportation System? What steps can be taken to address those challenges?
- To what extent does the JPDO seem to be interacting with private industry, and in your view, is the interaction productive?

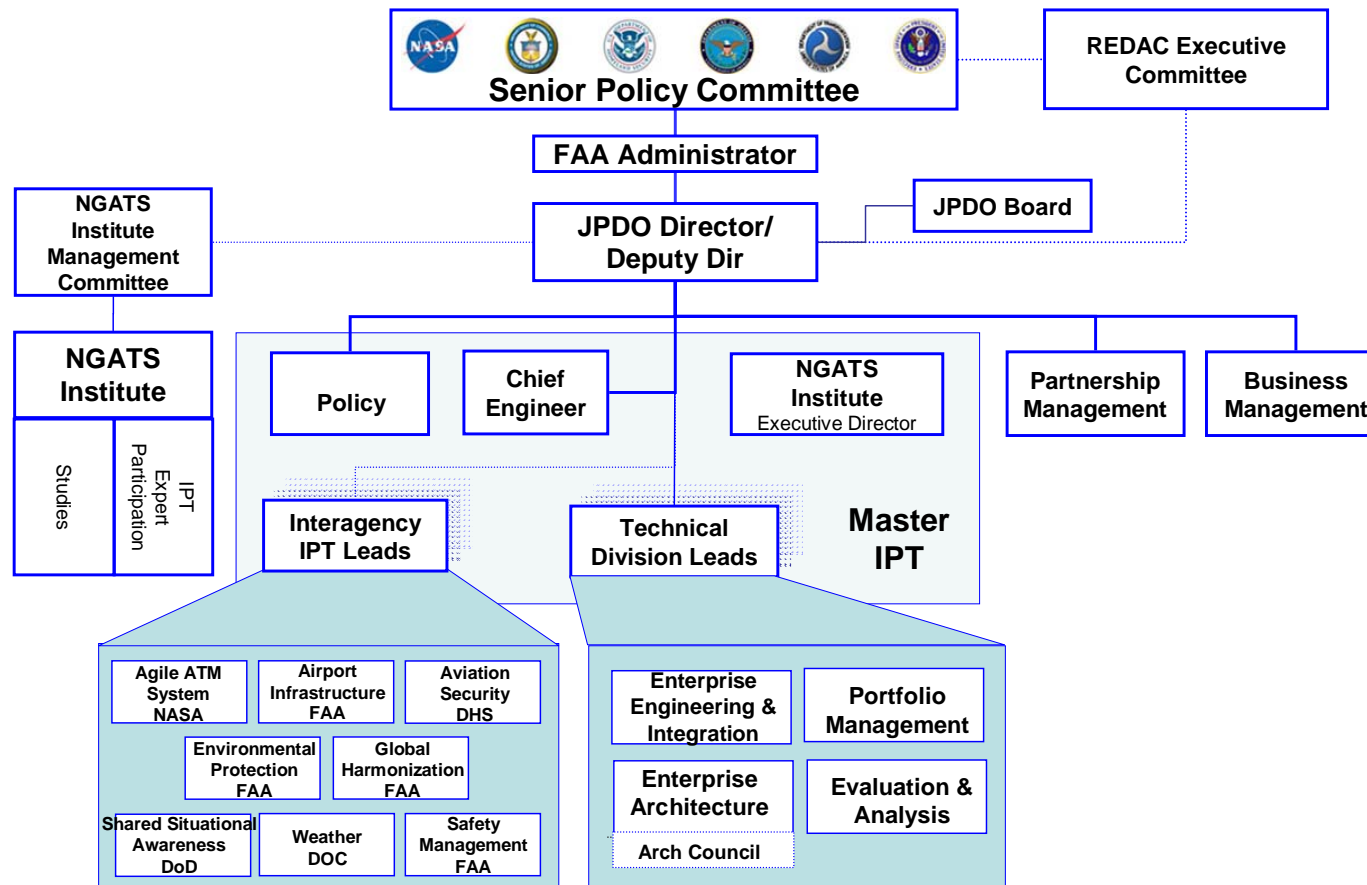
Questions for Mr. Mike Hudson, National Research Council

- Who is ultimately responsible for the designing and development of the Next Generation Air Transportation System? Given the roles of the Joint Planning and Development Office, the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, what is being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- What do you see as the biggest near-term and mid-term technical and programmatic challenges facing the JPDO as it attempts to implement the NGATS? What steps can be taken to address those challenges?
- How clearly does the NGATS Integrated Plan establish priorities? Are they, in your view, the right priorities?

Questions for the Honorable Todd Zinser, Acting DOT Inspector General

- Who should be ultimately responsible for the designing and development of the Next Generation Air Transportation System? Given the roles of the Joint Planning and Development Office, the Federal Aviation Administration, and the National Aeronautics and Space Administration, among others, is enough being done to ensure that work on the NGATS moves ahead in a coordinated, coherent manner?
- What do you see as the biggest near-term and mid-term technical and programmatic challenges facing the JPDO as it attempts to implement the NGATS? What steps can be taken to address these challenges?
- To what extent does the JPDO seem to be interacting with private industry, and in your view, is the interaction productive?

JPDO Organization



Appendix B

Excerpts from Title VII of H.R. 2115 (Public Law 108-176)

SEC. 709. AIR TRANSPORTATION SYSTEM JOINT PLANNING AND DEVELOPMENT OFFICE.

(a) ESTABLISHMENT- (1) The Secretary of Transportation shall establish in the Federal Aviation Administration a joint planning and development office to manage work related to the Next Generation Air Transportation System. The office shall be known as the Next Generation Air Transportation System Joint Planning and Development Office (in this section referred to as the `Office').

(2) The responsibilities of the Office shall include--

(A) creating and carrying out an integrated plan for a Next Generation Air Transportation System pursuant to subsection (b);

(B) overseeing research and development on that system;

(C) creating a transition plan for the implementation of that system;

(D) coordinating aviation and aeronautics research programs to achieve the goal of more effective and directed programs that will result in applicable research;

(E) coordinating goals and priorities and coordinating research activities within the Federal Government with United States aviation and aeronautical firms;

(F) coordinating the development and utilization of new technologies to ensure that when available, they may be used to their fullest potential in aircraft and in the air traffic control system;

(G) facilitating the transfer of technology from research programs such as the National Aeronautics and Space Administration program and the Department of Defense Advanced Research Projects Agency program to Federal agencies with operational responsibilities and to the private sector; and

(H) reviewing activities relating to noise, emissions, fuel consumption, and safety conducted by Federal agencies, including the Federal Aviation Administration, the National Aeronautics and Space Administration, the Department of Commerce, and the Department of Defense.

(3) The Office shall operate in conjunction with relevant programs in the Department of Defense, the National Aeronautics and Space Administration, the Department of Commerce and the Department of Homeland Security. The Secretary of Transportation may request assistance from staff from those Departments and other Federal agencies.

(4) In developing and carrying out its plans, the Office shall consult with the public and ensure the participation of experts from the private

sector including representatives of commercial aviation, general aviation, aviation labor groups, aviation research and development entities, aircraft and air traffic control suppliers, and the space industry.

(b) INTEGRATED PLAN- The integrated plan shall be designed to ensure that the Next Generation Air Transportation System meets air transportation safety, security, mobility, efficiency, and capacity needs beyond those currently included in the Federal Aviation Administration's operational evolution plan and accomplishes the goals under subsection (c). The integrated plan shall include--

- (1) a national vision statement for an air transportation system capable of meeting potential air traffic demand by 2025;
- (2) a description of the demand and the performance characteristics that will be required of the Nation's future air transportation system, and an explanation of how those characteristics were derived, including the national goals, objectives, and policies the system is designed to further, and the underlying socioeconomic determinants, and associated models and analyses;
- (3) a multiagency research and development roadmap for creating the Next Generation Air Transportation System with the characteristics outlined under clause (ii), including--
 - (A) the most significant technical obstacles and the research and development activities necessary to overcome them, including for each project, the role of each Federal agency, corporations, and universities;
 - (B) the annual anticipated cost of carrying out the research and development activities; and
 - (C) the technical milestones that will be used to evaluate the activities; and
- (4) a description of the operational concepts to meet the system performance requirements for all system users and a timeline and anticipated expenditures needed to develop and deploy the system to meet the vision for 2025.

(c) GOALS- The Next Generation Air Transportation System shall--

- (1) improve the level of safety, security, efficiency, quality, and affordability of the National Airspace System and aviation services;
- (2) take advantage of data from emerging ground-based and space-based communications, navigation, and surveillance technologies;
- (3) integrate data streams from multiple agencies and sources to enable situational awareness and seamless global operations for all appropriate users of the system, including users responsible for civil aviation, homeland security, and national security;
- (4) leverage investments in civil aviation, homeland security, and national security and build upon current air traffic

- management and infrastructure initiatives to meet system performance requirements for all system users;
- (5) be scalable to accommodate and encourage substantial growth in domestic and international transportation and anticipate and accommodate continuing technology upgrades and advances;
- (6) accommodate a wide range of aircraft operations, including airlines, air taxis, helicopters, general aviation, and unmanned aerial vehicles; and
- (7) take into consideration, to the greatest extent practicable, design of airport approach and departure flight paths to reduce exposure of noise and emissions pollution on affected residents.
- (d) **REPORTS-** The Administrator of the Federal Aviation Administration shall transmit to the Committee on Commerce, Science, and Transportation in the Senate and the Committee on Transportation and Infrastructure and the Committee on Science in the House of Representatives--
- (1) not later than 1 year after the date of enactment of this Act, the integrated plan required in subsection (b); and
- (2) annually at the time of the President's budget request, a report describing the progress in carrying out the plan required under subsection (b) and any changes to that plan.
- (e) **AUTHORIZATION OF APPROPRIATIONS-** There are authorized to be appropriated to the Office \$50,000,000 for each of the fiscal years 2004 through 2010.

SEC. 710. NEXT GENERATION AIR TRANSPORTATION SENIOR POLICY COMMITTEE.

- (a) **IN GENERAL-** The Secretary of Transportation shall establish a senior policy committee to work with the Next Generation Air Transportation System Joint Planning and Development Office. The senior policy committee shall be chaired by the Secretary.
- (b) **MEMBERSHIP-** In addition to the Secretary, the senior policy committee shall be composed of--
- (1) the Administrator of the Federal Aviation Administration (or the Administrator's designee);
- (2) the Administrator of the National Aeronautics and Space Administration (or the Administrator's designee);
- (3) the Secretary of Defense (or the Secretary's designee);
- (4) the Secretary of Homeland Security (or the Secretary's designee);
- (5) the Secretary of Commerce (or the Secretary's designee);
- (6) the Director of the Office of Science and Technology Policy (or the Director's designee); and
- (7) designees from other Federal agencies determined by the Secretary of Transportation to have an important interest in, or responsibility for, other aspects of the system.
- (c) **FUNCTION-** The senior policy committee shall--

- (1) advise the Secretary of Transportation regarding the national goals and strategic objectives for the transformation of the Nation's air transportation system to meet its future needs;
 - (2) provide policy guidance for the integrated plan for the air transportation system to be developed by the Next Generation Air Transportation System Joint Planning and Development Office;
 - (3) provide ongoing policy review for the transformation of the air transportation system;
 - (4) identify resource needs and make recommendations to their respective agencies for necessary funding for planning, research, and development activities; and
 - (5) make legislative recommendations, as appropriate, for the future air transportation system.
- (d) CONSULTATION- In carrying out its functions under this section, the senior policy committee shall consult with, and ensure participation by, the private sector (including representatives of general aviation, commercial aviation, aviation labor, and the space industry), members of the public, and other interested parties and may do so through a special advisory committee composed of such representatives.